

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

(PCT Article 36 and Rule 70)

525,452  
PCT/JP2003/010873



Applicant's or agent's file reference <b>M872-PCT</b>	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/JP2003/010873</b>	International filing date (day/month/year) <b>27 August 2003 (27.08.2003)</b>	Priority date (day/month/year) <b>29 August 2002 (29.08.2002)</b>
International Patent Classification (IPC) or national classification and IPC <b>D01F 6/30, 6/76, D02G 3/48, B60C 9/00, F16G 1/08</b>		
Applicant <b>ASAHI KASEI KABUSHIKI KAISHA</b>		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of _____ sheets.</p>
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input checked="" type="checkbox"/> Certain observations on the international application</p>

Date of submission of the demand <b>24 September 2003 (24.09.2003)</b>	Date of completion of this report <b>21 September 2004 (21.09.2004)</b>
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP2003/010873

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed
- ☐ the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the claims:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the drawings:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP 03/10873

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	1 - 24	YES
	Claims		NO
Inventive step (IS)	Claims	1 - 24	YES
	Claims		NO
Industrial applicability (IA)	Claims	1 - 24	YES
	Claims		NO

**2. Citations and explanations**

## Claims 1 and 8

None of the documents discloses a polyketone or polyketone fiber characterized by having "a minimum ultraviolet absorbance ( $A_{\min}$  (F)) of 0.5 or less in the wavelength region of 210 to 240 nm," and thus, the inventions described in claims 1 and 8 are novel.

Further, the above polyketone fiber exhibits little variation in tensile strength and high heat-resistant tensile strength retention, and thus, also involves an inventive step.

## Claim 9

None of the documents discloses a feature wherein when preparing a polyketone fiber using a polyketone solution consisting of a polyketone dissolved in at least one type of metallic salt solution selected from among zinc salts, calcium salts, and salts of thiocyanic acid, and discharging the polyketone fiber from a spinneret, the relationship between temperature and the time from when the polyketone is dissolved in the metallic salt solution until it is extruded from the spinneret falls within the range stipulated by formula (2) in claim 9, and thus, the invention described in claim 9 is novel.

Further, there is no disclosure suggesting the regulation of temperature and the time from when the polyketone is dissolved in the metallic salt solution until it is extruded from the spinneret, and meanwhile, the polyketone fiber prepared in such a manner exhibits little variation in tensile strength and high heat-resistant tensile strength retention, and thus, also involves an inventive step.

Claims 2 to 7 and 10 to 24

Each of claims 2 to 7 and 10 to 24 is set forth as a claim referring to claim 1 or claim 9, and describes an invention to which additional technical limitations have been applied, and thus, just as claims 1 and 9 are novel and involve an inventive step, claims 2 to 7 and 10 to 24 are novel and involve an inventive step.

#### Documents

- Document 1: WO 90/14453 A (STAMICARBON B.V.), 29 November 1990
- Document 2: US 5194210 A (Akzo NV), 16 March 1993
- Document 3: US 5045258 A (Shell Oil Company), 3 September 1991
- Document 4: WO 94/20562 A (AKZO NOBEL N.V.), 15 September 1994
- Document 5: JP 2000-345431 A (Asahi Chemical Industry Co., Ltd.), 12 December 2000
- Document 6: JP 2001-295134 A (Asahi Chemical Industry Co., Ltd.), 26 October 2001
- Document 7: WO 94/16127 A (AKZO NOBEL N.V.), 21 July 1994

## VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 1 includes all polyketone fibers characterized by having "a minimum ultraviolet absorbance ( $A_{\min}$  (F)) of 0.5 or less in the wavelength region of 210 to 240 nm."

Further, claim 8 includes all polyketone fiber preparation methods characterized in that "a polyketone solution consisting of a polyketone dissolved in at least one type of metallic salt solution selected from among zinc salts, calcium salts, and salts of thiocyanic acid is used, and the polyketone in the polyketone solution extruded from a spinneret has a minimum ultraviolet absorbance ( $A_{\min}$  (F)) of 0.5 or less in the wavelength region of 210 to 240 nm."

However, the only subject matter disclosed in the sense of PCT Article 5 is a polyketone fiber preparation method described in the description as characterized by the use of a polyketone solution consisting of a polyketone dissolved in a metallic salt solution containing a zinc salt, wherein the temperature during the dissolving process is 10 to 60°C and the dissolution period is 10 hours or less, and the polyketone solution is extruded through a spinneret, and the polyketone fiber obtained thereby; thus, the support stipulated in PCT Article 6 is lacking.

Furthermore, for the same reason, the inventions described in claims 2 to 7 and 20 to 24, which refer to claim 1, also lack the support stipulated in PCT Article 6.